

UBE2C (B-12): sc-166339

BACKGROUND

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. The first step requires the ATP-dependent activation of the Ub C-terminus and the assembly of multi-Ub chains by the Ub-activating enzyme known as the E1 component. The Ub chain is then conjugated to the Ub-conjugating enzyme (E2) to generate an intermediate Ub-E2 complex. The Ub-ligase (E3) then catalyzes the transfer of Ub from E2 to the appropriate protein substrate. UBE2C, also designated UBCH10 in human, is an E2 ubiquitin conjugating enzyme for the anaphase promoting complex (APC), which coordinates mitosis and G₁ by sequentially promoting the degradation of key cell-cycle regulators. UBE2C is overexpressed in many different types of cancers and may be a potential therapeutic target.

REFERENCES

1. Lin, Y., et al. 2002. Structural and functional analysis of the human mitotic-specific ubiquitin-conjugating enzyme, UBCH10. *J. Biol. Chem.* 277: 21913-21921.
2. Okamoto, Y., et al. 2003. UBCH10 is the cancer-related E2 ubiquitin-conjugating enzyme. *Cancer Res.* 63: 4167-4173.
3. Rape, M., et al. 2004. Autonomous regulation of the anaphase-promoting complex couples mitosis to S-phase entry. *Nature* 432: 588-595.

CHROMOSOMAL LOCATION

Genetic locus: UBE2C (human) mapping to 20q13.12; Ube2c (mouse) mapping to 2 H3.

SOURCE

UBE2C (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-25 at the N-terminus of UBE2C of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UBE2C (B-12) is available conjugated to agarose (sc-166339 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166339 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166339 PE), fluorescein (sc-166339 FITC), Alexa Fluor® 488 (sc-166339 AF488), Alexa Fluor® 546 (sc-166339 AF546), Alexa Fluor® 594 (sc-166339 AF594) or Alexa Fluor® 647 (sc-166339 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166339 AF680) or Alexa Fluor® 790 (sc-166339 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166339 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

UBE2C (B-12) is recommended for detection of UBE2C isoforms 1, 2, 3, and 5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UBE2C siRNA (h): sc-61742, UBE2C siRNA (m): sc-61743, UBE2C shRNA Plasmid (h): sc-61742-SH, UBE2C shRNA Plasmid (m): sc-61743-SH, UBE2C shRNA (h) Lentiviral Particles: sc-61742-V and UBE2C shRNA (m) Lentiviral Particles: sc-61743-V.

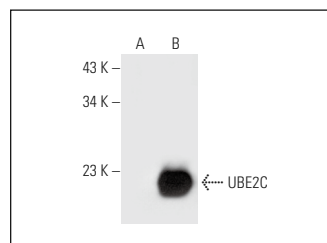
Molecular Weight of UBE2C: 20 kDa.

Positive Controls: UBE2C (h2): 293T Lysate: sc-116349, SW480 cell lysate: sc-2219 or HeLa whole whole cell lysate: sc-2200.

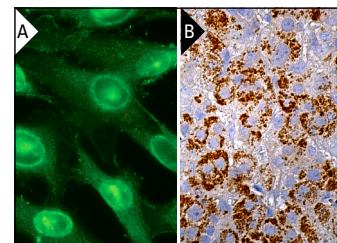
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



UBE2C (B-12): sc-166339. Western blot analysis of UBE2C expression in non-transfected: sc-117752 (A) and human UBE2C transfected: sc-116349 (B) 293T whole cell lysates.



UBE2C (B-12): sc-166339. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Hu, J., et al. 2019. Anticancer effect of icaritin on prostate cancer via regulating miR-381-3p and its target gene UBE2C. *Cancer Med.* 8: 7833-7845.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.